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EXAMINER
JACKSON, BLANE J

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/824,164	SHARMA ET AL.	
	Examiner	Art Unit	
	Blane J. Jackson	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 August 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 21 August 2007 have been fully considered but they are not persuasive. With regard to the applicant's primary argument with respect to the amended claims, Hsu teaches the IWF provides two functions with respect to an Ethernet link to the MSC; to translate digital data from an originating digital wireless telephone to a PSTN via the MSC and also interfaces the digital data to a LAN or WLAN, column 6, lines 24-51.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-34 are rejected under 35 U.S.C. 102(a) as being anticipated by Hsu et al. (US 6,587,684).

As to claim 1, Hsu teaches a system for providing an interface between a wireless switch and an interworking function comprising in combination:

A wireless switch (figure 1, column 6, lines 17-47, MSC (12)),

An interworking function for connecting data calls of both a type between a client terminal and a device in a packet data network and a type between the client terminal

and a device in a Public Switched Telephone Network (figure 1, column 6, lines 20-51 and column 12, lines 1-36, IWF (18) performs a translation of a connection originated by digital wireless telephone (16) via MSC (12) to PSTN (48) and also completes a second connection from the MSC originated by digital wireless telephone (16) to digital device (32) in a LAN/ Intranet),

An Ethernet link connecting the wireless switch and the interworking function wherein both signaling information for setting up both types of data call and bearer data for both types of data call are transmitted over the Ethernet link (figure 2, column 6, lines 24-51, the IWF is linked to the MSC via "a prescribed network layer protocol" and linked to the gateway IP server (20) according to a "prescribed physical layer protocol , for exampled Ethernet"; column 8, lines 33-51, these two transmission links to and from the IWF are the same, see links (54) of figure 2, such that a low-level physical layer protocol assures the transmission and reception of a data stream between two devices via a wire medium (54); column 12, lines 1-11, the MSC strips the packets to recover the data frames at the data link layer (56) and then repacketizes the data frames according to the physical layer protocol (50b), for example Ethernet for transmission on link (54) to the IWF).

As to claim 2 with respect to claim 1, Hsu teaches the interworking function includes an Access Router card connected to a Primary Rate Interface card (column 10, line 23 to column 12, line 19, the interworking unit (18) comprises a router and interface

card to establish a two-way communication link with the digital telephone through the MSC using IP addressing according to TCP/IP protocols).

As to claim 3 with respect to claim 2, Hsu teaches the Access Router card is connected to a Network Interface card that provides an interface between the Access Router card and the wireless switch (column 10, lines 5-34, the interworking unit and determines the data destination and forwards the data by the packet switched network necessarily utilizing a router and network interface card).

As to claim 4 with respect to claim 2, Hsu teaches the Access Router card functions to translate data message between theireless network and a Public Switched Telephone Network (figure 1, column 10, lines 22-34 and column 2, lines 51-65).

As to claim 5 with respect to claim 4, Hsu teaches the Access Router card packetizes data sent from the wireless network to the Public Switched telephone Network (figure 1, column 10, lines 22-34 and column 2, lines 51-65).

As to claim 6 with respect to claim 4, Hsu teaches the Access Router card de-packetizes data sent from the Public Switched telephone Network to the wireless network (figure 1, column 10, lines 22-34 and column 2, lines 51-65).

As to claim 7 with respect to claim 1, Hsu teaches the interworking function includes a chassis having a Network Interface card, an Access Router card, a Primary Rate Interface card, an application card and a modem card (figure 2, column 3, lines 10-25, IWF performs necessary tasks to process data and fax transmission via the public switched telephone network; column 9, line 19 to column 10, line 60, the IWF (18) inherently contains the cards to support TCP/IP network layers including network and data link layer protocols).

As to claim 8 with respect to claim 7, Hsu teaches the application card provides signaling information to the Access Router card using a signaling protocol (figure 2, column 10, lines 5-34, TCP/IP protocol).

As to claim 9 with respect to claim 8, Hsu teaches the signaling protocol provides a method of transferring trunk, port and IP address information from the application card to the Access Router card (column 10, lines 23-52, IWF (18) internally processes the data, takes the packet from the physical layer and passes it through a data link layer to an IP layer in accordance to TCP/IP transport protocol).

As to claim 10 with respect to claim 9, Hsu teaches the IP address information includes an IP address of the wireless switch, an IP address of the application card, an IP address of the Access Router card and a UDP port number to be used for data exchange between the Access Router card and the wireless switch (figure 2, column

11, line 64 to column 12, line 19, the IWF (18) establishes a two-way communication link (57) with the digital telephone according to the network and data link layer protocols (56), TCP/IP protocols via the MSC).

As to claims 11 and 29, Hsu teaches a system for providing an interface between a wireless switch and an interworking function comprising in combination:

A wireless switch (figure 1, column 6, lines 17-47, MSC (12)),

An interworking function for connecting data calls of both a type between a client terminal and a device in a packet data network and a type between the client terminal and a device in a Public Switched Telephone Network (figure 1, column 6, lines 20-51 and column 12, lines 1-36, IWF (18) performs a translation of a connection originated by digital wireless telephone (16) via MSC (12) to PSTN (48) and also completes a second connection from the MSC originated by digital wireless telephone (16) to digital device (32) in a LAN/ Intranet),

having a chassis including a Network Interface card, an Access Router card, a Primary Rate Interface card, an application card and a modem card wherein the Access Router card is connected to the Primary Rate Interface card in the chassis wherein the application card communicates with the Access Router card using a signaling protocol that provides a method of transferring trunk, port and IP address information from the application card to the Access Router card (figures 1 and 2, column 2, line 51 to column 3, line25, the IWF (18), a separate physical system chassis device, performs necessary tasks to process data and fax transmissions into circuit switched data and digital fax

connections for the public switched telephone network or browse the internet via a data proxy gateway or other application servers; column 6, lines 17-47; column 12, lines 8-19 and column 8, line 30 to column 10, line 34, the IWF (18) inherently includes the function cards/ circuits to support the TCP/IP signaling protocol based on a 5-layer variation of the 7-layer OSI reference model), and

An Ethernet link connecting the wireless switch and the interworking function wherein both signaling information for setting up both types of data call and bearer data for both types of data call are transmitted over the Ethernet link (figure 2, column 6, lines 24-51, column 11, line 64 to column 12, line 9 and column 17, lines 9-25, prescribed physical layer protocol (50b) provides Ethernet link (54) between the MSC (14) and IWF (18) as well as between the IWF and data proxy gateway (20)).

As to claim 12, Hsu teaches a method for providing an interface between a wireless switch and an interworking function, wherein the interworking function connecst data calls of both a type between a client terminal and a device in a packet data network and a type between the client terminal and a device in a Public Switched Telephone Network (figure 1, column 6, lines 20-51 and column 12, lines 1-36, IWF (18) performs a translation of a connection originated by digital wireless telephone (16) via MSC (12) to PSTN (48) and also completes a second connection from the MSC originated by digital wireless telephone (16) to digital device (32) in a LAN/ Intranet), the method comprising in combination:

Connecting an Ethernet link between a wireless switch and an interworking function, wherein both signaling information for setting up both types of data call and bearer data for both types of data call are transmitted over the Ethernet link (figure 2, column 6, lines 24-51, column 11, line 64 to column 12, line 9 and column 17, lines 9-25, prescribed physical layer protocol (50b) provides Ethernet link (54) between the MSC (14) and IWF (18) as well as between the IWF and data proxy gateway (20)),

Connecting an Access Router card to a Primary Rate Interface card within the interworking function wherein the Access Router card de-packetizes data from a Public Switched Telephone Network prior to transmitting the data to a wireless network wherein the Access Router card packetizes data from the wireless network prior to transmitting the data to the Public Switched Telephone Network (figures 1 and 2, column 2, line 51 to column 3, line25, the IWF (18), a separate physical system chassis device, performs necessary tasks to process data and fax transmissions into circuit switched data and digital fax connections for the public switched telephone network or browse the internet via a data proxy gateway or other application servers network server; column 6, lines 17-47; column 12, lines 8-19 and column 8, line 30 to column 10, line 34, the IWF (18) inherently includes the function cards/ circuits to support the TCP/IP signaling protocol based on a 5-layer variation of the 7-layer OSI reference model), and

Providing a signaling protocol for an application card in the interworking function to transfer signaling information to the Access Router card (column 10 lines 5-34,

TCP/IP signaling protocol with addressing and passing the packet toward its final destination).

As to claim 13 with respect to claim 12, Hsu teaches removing T1/E1 trunks between the wireless switch and the interworking function (figure 1, column 7, line 36 to column 8, line 13, T1 lines are used in communication with the MSC (12) and OMP/HLR (44) and MSC to PSTN (48) such that the link between the MSC and IFW (18) may have incorporated a conventional T1 link exchanged for Ethernet).

As to claim 14 with respect to claim 12, Hsu teaches the signaling information includes trunk, port and IP address information (figure 1, column 8, lines 30-48 and column 10, line 5 to column 11, line 13, TCP/IP transport protocol).

As to claim 15 with respect to claim 14, Hsu teaches the IP address information includes an IP address of the wireless switch, an IP address of the application card and IP address of the Access Router card and a UDP port number to be used for data exchange between the Access Router card and the wireless switch (column 10, lines 23-52 and column 11 line 64 to column 12, line 19, IP based addressing according to TCP/IP protocol).

As to claim 16, Hsu teaches a method for providing an interface between a wireless switch and an interworking function, wherein the interworking function connects

data calls of both a type between a client terminal and a device in a packet data network and a type between the client terminal and a device in a Public Switched Telephone Network (figure 1, column 6, lines 20-51 and column 12, lines 1-36, IWF (18) performs a translation of a connection originated by digital wireless telephone (16) via MSC (12) to PSTN (48) and also completes a second connection from the MSC originated by digital wireless telephone (16) to digital device (32) in a LAN/ Intranet), the method comprising in combination:

Receiving signaling information for setting up both types of call over an Ethernet link (figure 2, column 11, line 64 to column 12, line 9 and column 17, lines 9-25, prescribed physical layer protocol (50b) provides Ethernet link (54) between the MSC (14) and IWF (18) as well as between the IWF and data proxy gateway (20)),

Assigning a trunk for bearer data transmission, sending trunk, port and IP address information to an Access Router card (figure 2, column 11, line 64 to column 12, line 19),

Receiving bearer data for both types of data call over the Ethernet link, translating the bearer data and transmitting the translated bearer data over the Ethernet link (column 6, lines 24-51, column 9, line 19 to column 10. line 34, the IFW providing data with the LAN/ WLAN as well as an interworking function to translate the data for transmission to the PSTN (48) via the MSN with communication carried out over a prescribed physical layer protocol such as Ethernet).

As to claim 17 with respect to claim 16, Hsu teaches the step of receiving signaling information for setting up both types of data call over an Ethernet link includes receiving port and IP address information into an application card (column 10, lines 23-34).

As to claim 18 with respect to claim 17, Hsu teaches the IP address information includes an IP address of the wireless switch, an IP address of the application card and IP address of the Access Router card and a UDP port number to be used for data exchange between the Access Router card and the wireless switch (column 10, lines 23-52 and column 11 line 64 to column 12, line 19, IP based addressing according to TCP/IP protocol).

As to claim 19 with respect to claim 16, Hsu teaches the step of assigning a trunk for bearer data transmission includes an application card selecting the trunk (figure 1, column 8, lines 30-48 and column 10, line 5 to column 11, line 13, TCP/IP transport protocol).

As to claim 20 with respect to claim 16, Hsu teaches the step of sending trunk, port and IP address information to an Access Router card includes an application card sending the trunk, port, and address information to the Access Router card using a signaling protocol (column 10, lines 23-52, IWF (18) internally processes the data, takes

the packet from the physical layer and passes it through a data link layer to an IP layer in accordance to TCP/IP transport protocols).

As to claim 21 with respect to claim 21, Hsu teaches the step of receiving bearer data for both types of data call over the Ethernet link, includes the Access Router card receiving the bearer data from a Public Switched Telephone Network via the wireless switch (column 2, lines 51-65 and column 12, lines 8-32, the IWF (18) establishes a two-way communication link between the wireless network telephone and PSTN via the MSC).

As to claim 22 with respect to claim 16, Hsu teaches the step of receiving bearer data for both types of data call over the Ethernet link, includes an application card receiving the bearer data from a wireless network via the wireless switch (column 2, lines 51-65 and column 12, lines 8-32, the IWF (18) establishes a two-way communication link between the wireless network telephone and PSTN via the MSC).

As to claims 23-25 with respect to claim 16, Hsu teaches the step of translating the bearer data includes demodulating data received to/from a PSTN to be delivered to the wireless network (column 2, lines 51-65 and column 12, lines 8-32, the IWF (18) establishes a two-way communication link between the wireless network telephone and PSTN via the MSC).

As to claim 26, Hsu teaches a method of routing calls comprising in combination:

Assigning a UDP port number to a bearer data call between a wireless switch and an interworking function, the interworking function operating to connect, by way of the wireless switch, data call of both a type between a client terminal and a device in a packet data network and a type between the client terminal and a device in a Public Switched Telephone Network (figure 1, column 6, lines 24-51 and column 11, line 64 to column 12, line 36, IWF (18) performs a translation of a connection originated by digital wireless telephone (16) via MSC (12) to PSTN (48) and also completes a second connection from the MSC originated by digital wireless telephone (16) to digital device (32) in a LAN/ Intranet),

Providing an IP address indicating a type of data for the bearer data call and packetizing bearer data wherein the packets include the assigned UPD port number and the IP address (column11, line 42 to column 12, line 24, the MSC treats the communication as a data call, provides an IP datagram from the digital telephone, to the IWF unit (18) by switching the packets through the port connect to the IWF (18)).

As to claim 27 with respect to claim 26, Hsu teaches providing an IP address of an application card indicates that the type of data is mobile data (column 12, lines 8-32, the MSC treats the communication as a data call, provides an IP datagram from the digital telephone, to the IWF unit (18) by switching the packets through the port connect to the IWF (18)).

As to claim 28 with respect to claim 26, Hsu teaches providing an IP address of an Access Router card indicates that the type of data is Public Switched Telephone Network data (column 10, lines 23-60, each router in a TCP/IP network maintains a database table from which it can look up the data link layer address and the router is then able to insert the correct data link layer address into the message being forwarded).

As to claim 30, Hsu teaches the system of claim 29 wherein the Access Router card packetizes data sent from the wireless switch destined for a PSTN (column 10, line 23-34, the final destination being the PSTN, such as a FAX via the MSC; column 3, lines 10-25).

As to claim 31, Hsu teaches the system of claim 29 wherein the Access Router card de-packetized data sent from the wireless switch destined for a wireless network (column 10, lines 23-52, stripping off lower layers, readdressing the lower layer and the passing the packet toward it final destination).

As to claim 32, Hsu teaches the system of claim 29 wherein the modem card demodulates data received from the wireless switch to be delivered to a wireless network (column 3, lines 10-25, the IFW receives a FAX transmission from the PSTN via the MSC with the wireless network as the final destination).

As to claim 33, Hsu teaches the system of claim 29 wherein the modem card modulates data received from the wireless switch to be delivered to the PSTN (column 3, lines 10-25, the IFW processes data, such as a FAX transmission from the wireless telephone via the MSC to be delivered to the PSTN via the MSC).

As to claim 34 with respect to claim 16, Hsu teaches the step of transmitting the translated bearer data over the Ethernet link includes an application card transmitting the translated bearer data to a wireless network via the wireless switch (column 2, lines 51-65 and column 12, lines 8-32, the IWF (18) establishes a two-way communication link in accordance to the TCP/IP transport protocol between the wireless network telephone and PSTN via the MSC).

Conclusion

The prior art made of record and not relied upon but considered pertinent to applicant's disclosure includes Phillips (US 6,400,712).

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blane J. Jackson whose telephone number is (571) 272-7890. The examiner can normally be reached on Monday through Thursday, 7:30 AM-6:00 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.